

## CLAIM AMENDMENTS

1. (currently amended) A storage medium for the storage of information and data, wherein the storage medium comprises ~~at least two interconnected disks of which at least one comprises~~

a glass storage glass disk; material and another comprises

a polymer ~~layer, having disk on the glass storage disk;~~

a reflective coating ~~, arranged between the polymer layer disk and the glass storage glass material disk;~~ upon which is arranged

a donor medium of on at least one side a donor medium for metallic ions between the reflective coating and the glass storage disk, whereby by irradiation the donor medium being so constituted that when irradiated with a focused laser beam ~~[[,]]~~ metallic ions reducible to metallic particles are locally transferred from the donor medium into the glass storage glass material disk.

2. (currently amended) The storage medium for the storage of information and data ~~[[,]]~~ according to claim 1 ~~[[,]]~~ wherein the ~~storage glass material comprises~~ donor medium is a localized metallic ion doping of the glass storage disk, whereby ~~[[by]]~~ irradiation by the focused laser beam ~~[[,]]~~ can convert

metallic ions of the doping ~~may be converted~~ into metallic particles or aggregations of metallic particles.

3 - 4. (canceled)

5. (currently amended) The storage medium according to claim 1 ~~[[,]] wherein the metallic ions are selected from the group comprising of silver, gold, platinum, [[and]]~~ or copper.

6. (canceled)

7. (currently amended) The storage medium according to claim 1 ~~[[,]] wherein the polymer layer features~~ disk is provided with an optically functional structure ~~comprising information for the guidance of guiding~~ a read/write beam.

8. (canceled)

9. (currently amended) The storage medium according to claim ~~[[1]]~~ 2 wherein ~~[[a]]~~ the metallic ion doping ~~in proximity of is generally at a~~ ~~[[sur]]~~ face of the glass storage ~~glass material disk is arranged on a side of the storage glass material facing turned toward~~ the polymer layer disk.

10. (currently amended) The storage medium according to claim 7 ~~[[,]]~~ wherein the optically functional structure ~~[[in]]~~ of the polymer ~~layer disk~~ is arranged on a ~~side-facing face of the~~ polymer disk turned toward the glass storage glass-material disk.

11 - 12. (canceled)

13. (currently amended) A process for storage of data with a storage medium, the process comprising the steps of:  
providing a ~~[[the]]~~ storage medium ~~comprising at least two interconnected disks of which at least one comprises~~ having  
a glass storage glass-material disk, and another  
comprises  
a polymer ~~layer disk on the glass disk,~~ having  
a reflective coating ~~, arranged between the polymer layer disk and the glass storage glass-material disk, and~~ upon which is arranged on at least one-side  
a donor medium ~~[[for]]~~ of metallic ions on the reflective coating; ~~[[and]]~~  
irradiating wherein by means of irradiation of the glass storage glass-material disk by focused electromagnetic or particle irradiation and thereby locally doping ~~[[of]]~~ the glass storage glass material is carried out disk with metallic ions from ~~[[a]]~~ the donor medium arranged on the glass storage glass-material; and

reducing the metallic ions in the glass storage disk to metallic particles arranged according to the data being stored.

14. (currently amended) The process for storage of data with a storage medium according to claim 13, ~~wherein by irradiation of further comprising the step of~~

~~irradiating the glass storage glass-material disk by electromagnetic or particle irradiation [[in]] through the glass storage glass-material disk doped with metallic ions, information is stored in the glass storage glass-material disk by localized formation of and thereby reading the data stored in the arrangement of the metallic particles out of metallic ions, and stored information is read out by scanning the glass storage glass material with the irradiation in transmission or reflection.~~

15. (currently amended) The process according to claim 13 [[,]] wherein reading and writing of the information data with a laser beam takes place in a visible spectral region.

16. (currently amended) The process according to claim 14 [[,]] wherein ~~the formation of metallic particles takes place in a first step of irradiation by thermally inducing formation of metallic particle nuclei by the reduction of metallic ions, and in a second step, growth of metallic particle nuclei into a metallic~~

~~particle aggregation occurs~~ the ions are reduced to metallic particles by resonance-enhanced absorption of radiation.

17. (currently amended) The process according to claim 13, further comprising the step of ~~wherein deletion of~~ deleting stored information and data takes place by heating the storage medium.

18. (canceled)

19. (currently amended) The process according to claim 16 [[,]] wherein the reduction of metallic ions ~~occurs in response to a~~ is effected by heating [[of]] the entire storage medium above a transformation temperature of the glass storage medium disk.

20. (currently amended) The process according to claim 13 [[,]] wherein analog information data is stored by varying an intensity of the focused electromagnetic or particle irradiation.

21. (currently amended) A method for forming making a storage medium and storing information data therein, comprising the steps of:

applying a metal-ion donor medium [[on]] to a face of a glass storage disk whose opposite face carries ~~side of a storage medium, the storage medium comprising two interconnected disks, one~~

~~disk being a glass disk and another disk being a protective polymer layer disk; and~~

irradiating the glass storage disk and donor medium with a first focused laser beam and thereby locally doping the glass disk by a local transfer of metal ions from the metal-ion donor medium to the glass disk in locally heated spots of the metal-ion donor medium and the glass disk ~~irradiated by a first focused laser beam.~~

22. (currently amended) The method of claim 21 [[,]] wherein the glass disk is locally doped in a helical track.

23. (currently amended) The method of claim 21 [[,]] wherein the glass disk is locally doped in a temperature range below a transformation temperature of the glass of which the glass disk is comprised.

24. (currently amended) The method of claim [[21]] 23, further comprising the step of:

reducing the metal ions to metallic clusters in locally doped areas by heating the glass disk with a second focused laser beam above the transformation temperature of the glass of which the glass disk is comprised.

25. (currently amended) The method of claim 24 [[,]] wherein the first focused laser beam and the second focused laser beam are the same, and ~~wherein~~ reducing the metal ions to metallic clusters occurs immediately after locally doping the glass disk.

26. (currently amended) The method of claim 21, further comprising the step of:

retrieving information data from the storage medium by detecting a phase displacement of a reading laser beam caused by an altered index of refraction in a locally doped area of the glass disk.

27. (currently amended) A storage medium [[,]] comprising: ~~at least two interconnected disks wherein one disk is~~  
a glass disk; ~~and another disk is~~  
a protective polymer ~~layer~~ disk on the glass disk;  
a donor medium of metallic ions between the disks; and  
~~the glass disk having areas locally doped with~~  
metal ions in the glass disk transferred from an attached donor medium, ~~and wherein the metal ions are transferred to the~~  
glass disk by a local heating with a focused laser beam.

28. (currently amended) The storage medium of claim 27 [[,]] wherein the areas locally doped with metal ions are configured as a helically doped track.